WHAT IS CLAIMED IS:

1. A fuel injector comprising:

a direct-current power supply,

a power voltage detection means, a coil-equipped fuel injection valve, and

a control unit for controlling said fuel injection valve; wherein

said fuel injection valve has a plurality of coils and said control unit outputs a changeover signal for changing the magnitude -of-resultant inductance of the plurality of coils of said fuel injection valve in accordance with a power voltage detection value sent from said power voltage detection means.

2. The fuel injector of claim 1, wherein

said control unit sets a reference value of a power voltage beforehand and outputs a changeover signal by which, when a value that has been detected by said power voltage detection means is less than said reference value that has been set beforehand, said coils are reduced in resultant inductance, and

when the power voltage detection value is greater than said reference value, said coils are increased in resultant inductance.

3. The fuel injector according to claim 1 or 2, wherein

said fuel injection valve has at least two coils and said control unit outputs a connection changeover signal for connecting said plurality of

coils in parallel to set the resultant inductances thereof to small values and changing said plural ity of coils to series connection to obtain large resultant inductance values.

4. The fuel injector of claim 1, 2, or 3, wherein

said control unit outputs a changeover signal of the plurality of coils of said fuel injection valve when a power voltage value that has been set beforehand is reached.

5. The fuel injector of claim 1 or 2, wherein

said control unit is adapted so that a current is supplied to said plurality of coils of said fuel injection valve by constant -current limitation.

6. A control method for a fuel injector which comprises:

a direct-current power supply,

a power voltage detection means, a fuel injection valve with at least two coils, and

a control unit for controlling said fuel injection valve; wherein

said control method:

detecting that a voltage detected by said power voltage detection means has decreased to a value that has been set beforehand,

creating a connection changeover signal of at least said two coils from said detection signal, changing the connection of the coils, and

conducting control so that the time -varying characteristics of total magnetomotive force are approximately maintained at the characteristics

existing before the power voltage decreased.